APPENDIX C
Phosphorus Control Standards for Sweden's Watershed Areas

The following chart details the phosphorus control buffer area requirements for all lots except those being reviewed under the Subdivision Law. Buffer treatment is being used to protect water quality by limiting phosphorus export in stormwater runoff from new construction and land uses.

Use this chart to find the required depth of vegetated buffer area which must be retained on each lot downslope from disturbances caused by construction or earth-moving activities which modify existing soil horizons and/or existing vegetative ground cover:

Minimum Buffer Area Depth ↘		Total maximum disturbed area on each lot (square feet)					
		10,000	**15,000**	**20,000**	**25,000**	**30,000**	**30,000+**
Lot Size	Less than 70,000 sq. ft.	50 feet	55 feet	60 feet	65 feet	70 feet	75 feet
	70,000 sq. ft. or more and less than 3 acres	75 feet	85 feet	95 feet	125 feet	150 feet	175 feet
	3 acres or more and less than 4 acres	75 feet	85 feet	95 feet	105 feet	115 feet	125 feet
	4 acres or more	50 feet	50 feet	50 feet	50 feet	50 feet	50 feet

Notes:

1. Depths applicable to all lots except those to be reviewed under the Subdivision Law.
2. It is assumed that 1 acre equals 40,000 square feet.
3. This chart is applicable to shoreland areas but shoreland vegetative cutting and other buffer provisions apply.
4. Buffers in wetland areas shall not be considered.
5. If an applicant demonstrates that the soil type on the site of the proposed activity is predominantly hydrologic group A or B, buffer depths can be reduced by 50%.
6. Buffer areas must be maintained in a natural state except that 20% of the trees measuring 6 inches in diameter at a height of 4 feet may be cut in a 10-year period. Stumps shall not be removed and there shall be no disturbance to the existing ground cover and soils.
7. Buffers shall be naturally vegetated, forested sites with undisturbed understory and ground cover. Fully vegetated fields and revegetated areas fully covered with vegetation may serve as buffers but chart buffer depths must be increased by 100%.
8. In cases of building additions, buffers shall only be required to treat runoff from the new construction.

RULES:

1. Under the provisions of this Ordinance, any activity which must comply with the provisions of this section shall require the completion of a phosphorus control plan by the landowner or his authorized agent. The Town shall provide forms for this purpose. Information contained on the form shall include: property boundaries, approximate boundaries of disturbed areas, topography, general pre and post-development drainage patterns, boundaries of buffer areas, and provisions for re-vegetation, stabilization and erosion control. Photograph(s) showing pre-development conditions shall also be required.
2. A letter of agreement shall also be required (on a form supplied by the Town) in which the lot owner shall agree to retain buffer areas in their described vegetated state. Letters of agreement shall be binding upon all future owners, and a copy will be maintained in official Town records.
3. Further subdivision of a lot and/or expansion of the disturbed area beyond that which was approved under the provisions of this section shall require full compliance with the provisions of this section and the submission of a phosphorus control plan.
4. The Code Enforcement Officer shall accept and review phosphorus control plans and may act on behalf of the Town in witnessing, signing, and receiving letters of agreement.
5. In cases where lots of record cannot meet these standards, the Planning Board shall review phosphorus control plans and shall require the applicant to demonstrate that the proposal complies with these standards to the maximum extent possible (a determination made by the Planning Board based upon evidence provided and a positive finding that the applicant has, considering naturally-existing land use conditions and common and generally-accepted construction practices and land use, made a proposal which utilizes to the greatest extent possible the standards contained in this Ordinance to control phosphorus export.)

STANDARDS:

1. Areas of disturbance for roads and driveways shall not exceed 15 feet in width when passing through buffer areas. Only one such access shall be allowed through any contiguous buffer area, and the total area of disturbance shall be minimized.
2. When road or driveway length through a buffer area exceeds 150 feet, required buffer width shall be increased by 10%. When length exceeds 200 feet, required buffer width shall be increased by 20%.
3. Buffer areas shall be located downslope from all disturbed areas.
4. All disturbed areas which are not utilized for vehicular access or structures shall be adequately stabilized or revegetated within four months of the start of disturbance to prevent erosion and sedimentation.
5. Culvert outlets and other sources conveying runoff towards buffer areas shall be constructed and maintained so as to evenly distribute and disperse runoff and to minimize channelization.
6. Ditches shall be stabilized or revegetated as required above and culvert inlets and outlets shall be riprapped within three weeks of their placement.

EXAMPLE: The Phosphorus Control Plan Process

Step 1:

Review your lot or proposed lot to determine size in acres. For example, if you are looking at a 3 acre lot, you will need to provide a buffer area of 75 to 125 feet in depth depending on how much disturbance you are going to create. See the chart on page 51.

For this example, assume a 20,000 square foot total of all disturbed areas, including areas for driveway, parking, septic system, buildings and lawn. According to the chart, you need to provide a 95-foot deep buffer strip of natural ground cover and vegetation downslope from these disturbances. You cannot count wetland areas as buffer.

Step 2:

Get several forms for the phosphorus plan from the Code Enforcement Officer and begin to pencil in a plan of your lot. Usually a quick look around will allow you to determine the topography and drainage above and below the construction areas. Draw in the approximate location of the disturbed areas mentioned in step #2 and make sure that a 95 foot deep buffer will fit downslope on the property. Juggle the disturbed area to fit in on the lot along with the required buffer. If it does not fit, you will have to think of other layouts or reduce the total amount of disturbed area.

Don't forget to consider the length of the driveway. If it is more than 150 feet, you'll have to add to the buffer. Add 10% if the driveway is 150-200 feet long and make it 20% deeper if longer than 200 feet.

Step 3:

Decide on a final layout and finish the form. Be sure to include all of the information required in Rule 1. The plan does not have to be to exact scale and need not be prepared by a surveyor or engineer. The important points are to be accurate in figuring disturbed areas and where runoff flows and to make sure that buffers are the proper depth. The plan is intended only to describe the basic lot layout, not to be a survey.

Step 4:

The Town Office or Code Enforcement Officer will have pamphlets available to describe the best ways to stabilize and re-vegetate areas and how to rip-rap culverts. Indicate on your plan that you will follow those guidelines. As an alternative, you can have your contractor draw up a simple drainage and erosion control plan and attach that. The brochures are not mandatory, but were developed to help landowners.

Step 5:

Submit the plan and photographs to the Code Enforcement Officer and sign a letter of agreement to maintain the buffer area.